

INTRAMEDULLARY NAIL WITH NON-METAL SPACERS

ABSTRACT OF THE DISCLOSURE

An intramedullary nail structure is formed with opposing dynamization windows, and spacers of a bioresorbable material are positioned within the dynamization windows. The dynamization windows are longer than they are wide. The spacers may be integrally formed as a single insert. The nail is used with a bone fastener such as a bone screw which is advanced transversely through the bone and into the spacer, preferably in a bicortical attachment with the bone. The bone fastener is smaller across than the dynamization windows, so each spacer spaces the bone fastener relative to its dynamization window. As the spacers resorb, stress (at least in one direction) is increasingly transmitted through the fracture site rather than through the intramedullary nail. The positioning of the bone fastener, the shape and size of the dynamization windows and spacers, and the material of the spacers all allow design control over the type and amount of dynamization seen at the fracture site. Also, because the bone fastener is smaller across than the dynamization windows and spacers, a larger error in placement of the bone fastener is permissible.